THAT WHICH IS CLAIMED IS:

1. A method of manufacturing a decoupler for a vehicle interior trim component, comprising:

conveying materials into an enclosure to form a preform having a shape of the enclosure, wherein the enclosure has a perforated portion and at least one panel movable relative to the enclosure so as to selectively expose portions of the perforated portion;

heating the preform to a temperature such that adjacent materials may bond to one another upon cooling; and

forming the heated preform into a predetermined three-dimensional decoupler configuration via a mold.

2. The method of claim 1, wherein the enclosure has a contoured shape.

3. The method of claim 1 wherein the materials comprise thermoplastic material, thermoset material, fibrous material, foam, woven material, nonwoven material, fiber of any type, and combinations thereof.

4. The method of claim 3, wherein the fibers may comprise any of natural fibers, synthetic fibers, recycled fibers, bicomponent fibers and blends thereof.

5. The method of claim 4, wherein the fibers comprise shoddy fibers.

6. The method of claim 1, wherein the materials are conveyed into the enclosure in a substantially loose state.

7. The method of claim 1, wherein a carrier layer is disposed within the enclosure and wherein the preform is supported by the carrier layer.

8. The method of claim 7, wherein the carrier layer comprises an acoustic web of material, scrim or contoured trim piece.

9. The method of claim 7, wherein the carrier layer comprises scrim material.

10. The method of claim 7, wherein the carrier layer comprises an endless belt.

11. The method of claim 1, wherein the materials are conveyed into the enclosure from more than one direction.

12. The method of claim 1, wherein the materials are conveyed into the enclosure so as to form a preform having first and second portions said portions having different respective densities.

13. The method of claim 12, wherein the materials are conveyed into the enclosure so as to form a preform having first and second portions said portions having different respective cross-sectional dimensions, and wherein the forming step comprises forming the heated preform into a predetermined three-dimensional decoupler configuration.

14. The method of claim 12, wherein the materials are conveyed into the enclosure so as to form a preform having first and second portions said portions having substantially the same respective cross-sectional

dimensions, and wherein the forming step comprises forming the heated preform into a predetermined three-dimensional decoupler configuration.

15. The method of claim 1, further comprising the ascertaining of acoustic properties of a vehicle passenger compartment to identify portions of the decoupler requiring enhanced sound attenuation.

16. The method of claim 1, wherein the conveying of materials into the enclosure includes the adjusting of the rate of movement of the at least one panel to adjust density in identified portions of the decoupler requiring enhanced sound attenuation.

17. The method of claim 15, wherein the ascertaining of acoustic properties of the vehicle passenger compartment comprises identifying portions of the decoupler at which sound within a predetermined frequency range is directed at an intensity level that exceeds a threshold intensity level.

18. The method of claim 15, wherein the ascertaining of acoustic properties of the vehicle passenger compartment comprises generating a sound intensity map of at least a portion of the vehicle passenger compartment.

19. The method of claim 1 wherein the materials are heated as they are conveyed into said enclosure.

20. The method of claim 1 including a plurality of panels movable relative to the enclosure.

21. The method of claim 20 wherein said panels

are hingedly moveable and selectively opened and closed.

22. The method of claim 1 wherein said enclosure includes a partition.

23. The method of claim 1 wherein the density of the preform may be varied as the at least one panel is moved to expose the perforated portion of the enclosure.

24. The method of claim 1 wherein the step of heating the preform to a temperature such that adjacent materials may bond to one another upon cooling comprises supplying the preform with materials comprising an amorphous polymer and a crystalline polymer wherein the amorphous polymer is heated above its glass transition temperature (**Tg**) and the crystalline polymer is heated to a temperature below its melting point (**Tm**).

25. A system for manufacturing a preform comprising:

an enclosure comprising a perforated portion and at least one panel movable relative to the enclosure so as to selectively expose portions of the perforated portion;

a feeder configured to introduce materials into the enclosure to form a preform having a shape of the enclosure wherein the density of the preform within the enclosure may be varied by moving the at least one panel to expose the perforated portion of the enclosure as materials are blown into the enclosure;

an oven configured to heat the preform to a temperature such that adjacent materials may bond to one another upon cooling.

26. The system of claim 25 wherein the system

includes a plurality of panels movable relative to the enclosure.

27. The system of claim 26 wherein said panels are hingedly movable and capable of being selectively opened and closed.

28. The system of claim 25 further comprising a mold that forms the heated preform into a predetermined three-dimensional decoupler configuration.

29. The system of claim 25 wherein the materials comprise thermoplastic material, thermoset material, fibrous material, foam, woven material, nonwoven material, fiber of any type, and combinations thereof.

30. The system of claim 29, further including a a bale cutter to provide fibers to said feeder.

31. The system of claim 25 further including a process controller wherein said process controller includes inputting of processing variables and said process controller outputs control parameters to said system to provide a desired geometry and density for said preform.

32. The system of claim 28 further including a process controller wherein said process controller includes inputting of processing variables and said process controller outputs control parameters to said system to provide a desired geometry and density for said decoupler.

33. A machine-readable medium whose contents causes a system to perform a method of forming a

decoupler for a vehicle interior trim component comprising

storing a desired acoustical characteristics of a decoupler configuration in said medium;

storing processing variables required to provide said desired acoustical characteristics of said decoupler;

selecting at least one processing variable required to form said decoupler with said desired acoustical characteristics;

outputting said at least one processing variable to said system to perform said method of forming said decoupler.

34. A decoupler for a vehicle interior trim component, comprising a molded preform having the shape of an enclosure from which it was formed, the preform comprising thermally bonded materials having first and second portions with different respective densities.

35. The decoupler of claim 34 wherein the materials comprise thermoplastic material, thermoset material, fibrous material, foam, woven material, nonwoven material, fiber of any type, and combinations thereof.

36. The decoupler of claim 34 wherein said preform having the shape of an enclosure comprises materials conveyed into said enclosure in a substantially loose state.

37. The decoupler of claim 34, wherein the first and second portions have different cross-sectional dimensions.

38. The decoupler of claim 34, wherein the first and second portions have substantially the same cross-sectional dimension.

39. The decoupler of claim 35, wherein the fibers may comprise any of natural fibers, synthetic fibers, bicomponent fibers, recycled fibers and blends thereof.

40. The decoupler of claim 35, wherein the fibers comprise shoddy fibers.

41. The decoupler of claim 35, wherein different denier fibers comprise said first and second portions.

42. A method of manufacturing a decoupler for a vehicle interior trim component, comprising:

conveying materials into an enclosure to form a preform having a shape of the enclosure, wherein the enclosure has a panel containing one or a plurality of movable portions relative to the enclosure so as to selectively expose portions of the enclosure, wherein the density of the preform may be varied as the at least one or plurality of movable portions are moved to expose a portion of the enclosure;

heating the preform to a temperature such that adjacent materials may bond to one another upon cooling; and

forming the heated preform into a predetermined three-dimensional decoupler configuration via a mold.

43. The method of claim 42 wherein the materials comprise thermoplastic material, thermoset material, fibrous material, foam, woven material, nonwoven material, fiber of any type, and combinations

thereof.

44. The method of claim 42 wherein said step of conveying materials includes introducing said materials in a substantially loose state by blowing said materials into said enclosure with an air stream, and said one or plurality of moveable portions upon moving defines an opening in said panel to expose a portion of the enclosure, wherein said openings further include a structure to regulate the amount of air that blows through and the amount of material retained in the enclosure.

45. The method of claim 42 wherein vacuum is included to convey said materials into said enclosure to form said preform.

46. The method of claim 42 wherein said step of conveying materials includes introducing said materials in a substantially loose state by blowing said materials into said enclosure with an air stream and applying a vacuum to convey said materials.

47. A method of manufacturing an article having a controlled density, comprising:

conveying materials into an enclosure to form a preform having a shape of the enclosure, wherein the enclosure has a perforated portion and at least one panel movable relative to the enclosure so as to selectively expose portions of the perforated portion; and

heating the preform to a temperature such that adjacent materials may bond to one another upon cooling.

48. The method of claim 47 further comprising forming the heated preform into a predetermined three-

dimensional configuration via a mold.